

*Lac and the Indian Lac Research Institute.* By Dorothy Norris, P. M. Glover, and R. W. Aldis, Indian Lac Research Institute, Calcutta, October, 1934. 53 p. illus. Rs 2/8 (91¢).

To entomologists, whose knowledge of the lac insect has been derived from the brief notices in standard texts on entomology, this report of the Indian Lac Research Institute will be a distinct enlightenment. The lac industry of India was adversely affected by the war and a commission was appointed to study it and make recommendations. The commission did this in 1921 and in 1925 the Indian Lac Research Institute was born. Its present report is a summary of its activities during the first nine years of its existence.

These activities included studies of the host trees of the lac insect, chemical and physio-chemical work in the problems of shellac manufacture, research into methods and practice of lac cultivation, the insect that produces it, a study of the insect enemies of the lac insect and their control, investigations of insects associated with lac and the insect pests of the trees on which lac is grown.

Some of the aims of the Institute are the improvement of cultural practices and the maintenance of healthy lac producing strains of *Laccifer lacca* Kerr.

The report is much more than an entomological one. It surveys the early history of the lac industry, the entomological history of the lac insect, the areas of importance in lac cultivation in India, the uses of shellac and synthetic substitutes, and the diverse work of the Institute, all concisely and briefly. In addition, there are tables on lac production, exports, etc., and an appendix listing 80 publications of the Institute.

Although the phonograph, electrical and varnish industries are the most important users of shellac, there are many other manufacturing activities in which it is used. However, in spite of a wide range of usefulness, natural lac products have to meet competition from an increasing number of synthetic substitutes. So far, an actual synthetic shellac has not been produced. Against the inroads of synthetic resins, the Indian Lac Research Institute has to battle in order that the Indian lac industry may not

disappear, as did the cochineal trade by the discovery of aniline dyes. It is to be hoped, as the report suggests, that the shellac research interests in America, India, and the United Kingdom will combine for their own interest and protection.

The authors are to be congratulated for their concise, readable and scientific report. Mrs. Dorothy Norris is the director and biochemist of the Institute; Mr. P. M. Glover is the entomologist and Dr. R. W. Aldis is the physio-chemist.—H. B. W.